

**Work Order ID 62167**

Monday, September 20, 2010 10:13:14 AM

Page 1

Item ID: D212-664-101TRN

Accept

Setup Start

Revision ID:

Stop

Item Name: Crosstube Turning Detail

Start Date: 9/20/2010 Start Qty: 1.00

Cust Item ID:

Required Date: 9/30/2010 Req'd Qty: 1.00

Customer:

Reference:

Approvals: Process Plan:

Date: 10-9-20 Tooling:

Date:




Run Start

QC:

Date: SPC (Y/N):

Date:

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
D212-664-141	Rev D								
100		0.00							
	MORI SEIKI CNC LATHE LARGE								
Mori Seiki	Memo	0.00							
Mori Seiki CNC Lathe Large	1-Fill tube with sand & install plugs DT8534 on both ends as per Folio FA113 2-Turn first side as per Folio FA113 3-File down transition lines smooth.								
110		0.00							
	QC1- Inspect dimensions to dimension sheet								
QC	Memo	0.00							
Quality Control									
120		0.00							
	MORI SEIKI CNC LATHE LARGE								
Mori Seiki	Memo	0.00							
Mori Seiki CNC Lathe Large	1-Turn second side as per Folio FA113 2-File down transition lines smooth. 3-Remove sand and plugs								

AM 10-09-210

AM 10-09-210

AM 10-09-210

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: D212-664-10TRN PAR #: NCR10-351 Fault Category: x-tubes NCR: (Yes) No DQA: ✓ Date: 10/10/01  
 Resolution: accepted Disposition: use as is QA: N/C Closed: ✓ Date: 10/10/01

NCR: <u>62167</u>		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			
10.09.28	10D	Some dims on OD are out of tolerance  R/c: Lack of attention	<u>GP</u> 10.09.28 05/042	Acceptable per attached SR.	<u>GP</u> 10.09.28 08/012	<u>S</u> 10/09/28	<u>GP</u> 10.09.28 05/042	<u>S</u> 10/09/28

NOTE: Date & initial all entries

**Work Order ID 62167**

Monday, September 20, 2010 10:13:14 AM

Page 2

Item ID: D212-664-101TRN

Accept

Revision ID:

Item Name: Crosstube Turning Detail

Start Date: 9/20/2010 Start Qty: 1.00

Required Date: 9/30/2010 Req'd Qty: 1.00




Reference:

Cust Item ID:

Customer:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_  
QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Run Start  
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130  QC Quality Control	QC1- Inspect dimensions to dimension sheet  Memo	0.00  0.00							Am 10-09-21 ①
140  QC Quality Control	QC8- Inspect parts - second check  Memo	0.00  0.00							566963 / 9/10.09/23
150  HandFXtube Hand Finishing Crosstubes	Crosstubes Chemical Conversion  Memo	0.00  0.00							SAD 10-09-28 ①

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

**Work Order ID 62167**

Monday, September 20, 2010 10:13:14 AM



Page 3

Item ID: D212-664-101TRN

Accept



Setup Start



Revision ID:

Stop



Item Name: Crosstube Turning Detail

Start Date: 9/20/2010 Start Qty: 1.00



Cust Item ID:

Required Date: 9/30/2010 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Run Start



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160  QC Quality Control	QC3- Inspect Part Finish  Memo	0.00  0.00		10-9-28					
170  Packaging Packaging Packaging	Packaging  Memo Identify and Stock in kanban rack Location: 46	0.00  0.00		10-9-28					
180  QC Quality Control	QC21- Final Inspection - Work Order Release  Memo	0.00  0.00							10/09/29

10-9-28  
Q

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

# Picklist Print

Monday, September 20, 2010 10:13:19 AM

Page 1

Work Order ID: 62167



Parent Item: D212-664-101TRN



Parent Item Name: Crosstube Turning Detail

Start Date: 9/20/2010

Required Date: 9/30/2010

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP Rev:A 08-03-06 new issue DD verified by:ec  
IPP Rev B 08.04.02 removed Polish EC verified by: DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
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D6005-128

Manufactured

No

120

Each

41.0000

1

1



Crosstube Material

AM 10-09-21 @

Location

Loc Qty

Loc Code

LG

41

53593

7

57911

34

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 62107
<b>Description:</b> Crosstube Assembly (205/212/412 High Fwd)		<b>Part Number:</b> D212-664-141
<b>Inspection Dwg:</b> D212-664-141 <b>Rev:</b> D		Page 1 of 1

### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	0.200	+/-0.010	0.200	/	Q.M. 04	N/A CP
	R0.063	+/-0.010	R0.063	/		
	2.740	+0.005/-0.000	2.742	/		
	5.097	+/-0.030	5.092	/		
	2.304	+0.005/-0.000	2.309	/		
	2.340	+0.005/-0.000	2.345	/		
	2.398	+0.005/-0.000	2.403	/		
	2.448	+0.005/-0.000	2.453	/		
	2.498	+0.005/-0.000	2.503	/		
	2.549	+0.005/-0.000	2.554	/		
	2.599	+0.005/-0.000	2.604	/		
	2.671	+0.005/-0.000	2.676	/		
	2.701	+0.005/-0.000	2.706	/		
SIDE B	0.200	+/-0.010	0.200	/	Q.M. 04	10.09.28
	R0.063	+/-0.010	R0.063	/		
	2.740	+0.005/-0.000	2.741	/		
	5.097	+/-0.030	5.092	/		
	2.304	+0.005/-0.000	2.309	/		
	2.340	+0.005/-0.000	2.345	/		
	2.398	+0.005/-0.000	2.403	/		
	2.448	+0.005/-0.000	2.453	/		
	2.498	+0.005/-0.000	2.503	/		
	2.549	+0.005/-0.000	2.554	/		
	2.599	+0.005/-0.000	2.604	/		
	2.671	+0.005/-0.000	2.676	/		
	2.701	+0.005/-0.000	2.706	/		
	126.514	+/-0.020	126.510	/		

<b>Measured by:</b> Q.M.	<b>Audited by:</b>	<b>Prototype Approval:</b>	N/A
<b>Date:</b> 10.09.21	<b>Date:</b>	<b>Date:</b>	N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-101)	KJ/JLM	
B	06.03.15	Tolerance revised for 5.097 per Dwg Rev update	KJ/JLM	
C	07.05.28	Dwg Rev updated	KJ/JLM	
D	10.02.02	Dimension 126.514 was 126.51	KJ	

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b> 42167
<b>Description:</b> Crosstube Assembly (205/212/412 High Fwd)		<b>Part Number:</b> D212-664-141
<b>Inspection Dwg:</b> D212-664-141 Rev: D		<b>Page 1 of 1</b>

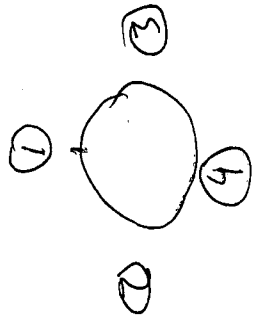
### FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A ↓	0.200	+/-0.010	✓		12" calipers	ED-14
	R0.063	+/-0.010	✓		R-17	
	2.740	+0.005/-0.000	2.727	✓	ED-14	
	5.097	+/-0.030	5.089	✓	"	
	2.304	+0.005/-0.000	2.288	✓	"	OK
	2.340	+0.005/-0.000	2.330	✓	"	10-09.28
	2.398	+0.005/-0.000	2.384	✓	"	
	2.448	+0.005/-0.000	2.446	✓	"	
	2.498	+0.005/-0.000	2.500	✓	"	
	2.549	+0.005/-0.000	2.550	✓	"	
	2.599	+0.005/-0.000	2.599	✓	"	
	2.671	+0.005/-0.000	2.676	✓	"	
	2.701	+0.005/-0.000	2.706	✓	"	
SIDE B ↑	0.200	+/-0.010	✓		12" calipers	ED-14
	R0.063	+/-0.010	✓		R-17	
	2.740	+0.005/-0.000	2.738/2.740	✓	ED-14	
	5.097	+/-0.030	5.683	✓	"	
	2.304	+0.005/-0.000	2.302	✓	"	
	2.340	+0.005/-0.000	2.341	✓	"	
	2.398	+0.005/-0.000	2.399	✓	"	
	2.448	+0.005/-0.000	2.451	✓	"	
	2.498	+0.005/-0.000	2.501	✓	"	
	2.549	+0.005/-0.000	2.551	✓	"	
	2.599	+0.005/-0.000	2.605	✓	"	
	2.671	+0.005/-0.000	2.674	✓	"	
	2.701	+0.005/-0.000	2.708	✓	"	
	126.514	+/-0.020	126.500	✓	T.M ED-11	

<b>Measured by:</b> S	<b>Audited by:</b> UP	<b>Prototype Approval:</b> N/A
<b>Date:</b> 10/09/23	<b>Date:</b> 10-09-28	<b>Date:</b> N/A

Rev	Date	Change	Revised by	Approved
A	05.04.27	New Issue (P/O D412-664-101)	KJ/JLM	
B	06.03.15	Tolerance revised for 5.097 per Dwg Rev update	KJ/JLM	
C	07.05.28	Dwg Rev updated	KJ/JLM	
D	10.02.02	Dimension 126.514 was 126.51	KJ	



	CD WALL	WALL			
SIDE A:	2.304	0.151	0.150	0.143	148
	2.340	0.169	0.170	0.162	0.165
	2.448	0.260	0.255	0.241	0.243
	2.498	0.284	0.270	0.271	0.273
SIDE B	2.304	0.161	0.152	0.152	0.149
	2.340	0.179	0.168	0.171	0.169
	2.448	0.251	0.244	0.262	0.250
	2.498	0.271	0.267	0.283	0.276

From SR-D212-664-1

SECTION	Crosstube	Damage Tolerance	O.D. (in)	I.D. (in)	Area (in <sup>2</sup> )	Inertia (in <sup>4</sup> )
A-A	Bell Fwd	0.000	2.750	2.000	2.798	2.022
	Bell Fwd w/ dam. tol.	0.005			2.788	2.003
	Dart Fwd	0.000	2.750	2.000	2.798	2.022
	Dart Fwd w/ dam. tol.	0.015			2.692	1.894
B-B	Bell Fwd	0.000	2.706	2.000	2.609	1.847
	Bell Fwd w/ dam. tol.	0.005			2.599	1.828
	Dart Fwd	0.000	2.701	2.000	2.588	1.827
	Dart Fwd w/ dam. tol.	0.015			2.444	1.708
C-C	Bell Fwd	0.000	2.605	2.000	2.188	1.475
	Bell Fwd w/ dam. tol.	0.015			2.158	1.424
	Dart Fwd	0.000	2.599	2.000	2.164	1.454
	Dart Fwd w/ dam. tol.	0.015			2.020	1.339
D-D	Bell Fwd	0.000	2.555	2.000	1.986	1.306
	Bell Fwd w/ dam. tol.	0.015			1.956	1.258
	Dart Fwd	0.000	2.549	2.000	1.961	1.287
	Dart Fwd w/ dam. tol.	0.015			1.817	1.173
E-E	Bell Fwd	0.000	2.504	2.000	1.783	1.144
	Bell Fwd w/ dam. tol.	0.010			1.763	1.113
	Dart Fwd	0.000	2.499	2.000	1.763	1.129
	Dart Fwd w/ dam. tol.	0.015			1.619	1.017
F-F	Bell Fwd	0.000	2.404	2.000	1.397	0.854
	Bell Fwd w/ dam. tol.	0.010			1.377	0.825
	Dart Fwd	0.000	2.394	2.000	1.360	0.827
	Dart Fwd w/ dam. tol.	0.012			1.222	0.728
G-G	Bell Fwd	0.000	2.300	2.000	1.013	0.588
	Bell Fwd w/ dam. tol.	0.010			0.993	0.562
	Dart Fwd	0.000	2.289	2.000	0.974	0.562
	Dart Fwd w/ dam. tol.	0.012			0.835	0.466
H-H	Bell Fwd	0.000	2.750	2.000	2.798	2.022
	Bell Fwd w/ dam. tol.	0.030			2.738	1.909
	Dart Fwd	0.000	2.740	2.000	2.755	1.981
	Dart Fwd w/ dam. tol.	0.030			2.581	1.804

SECTION	Cross tube	Bending Ultimate (lb*in)	Bending Yield (lb*in)	Tension Ultimate (lb)	Tension Yield (lb)	Shear Ultimate (lb)
A-A	Bell fwd w/ DT	96147	81580	184007	156127	117095
	Dart fwd w/ DT	106069	90916	207296	177682	110379
	Margin of Safety	0.10	0.11	0.13	0.14	-0.06
B-B	Bell fwd w/ DT	89184	75671	171563	145568	109176
	Dart fwd w/ DT	97364	83455	188197	161312	100209
	Margin of Safety	0.09	0.10	0.10	0.11	-0.08
C-C	Bell fwd w/ DT	72166	61232	142437	120856	90642
	Dart fwd w/ DT	79333	68000	155504	133289	82801
	Margin of Safety	0.10	0.11	0.09	0.10	-0.09
D-D	Bell fwd w/ DT	64967	55124	129063	109508	82131
	Dart fwd w/ DT	70890	60763	139937	119946	74512
	Margin of Safety	0.09	0.10	0.08	0.10	-0.09
E-E	Bell fwd w/ DT	58674	49784	116349	98721	74040
	Dart fwd w/ DT	62696	53739	124673	106863	66384
	Margin of Safety	0.07	0.08	0.07	0.08	-0.10
F-F	Bell fwd w/ DT	45310	38445	90908	77134	57851
	Dart fwd w/ DT	<del>46818</del>	40129	94065	80627	50087
	Margin of Safety	0.03	0.04	0.03	0.05	-0.13
G-G	Bell fwd w/ DT	32243	27358	65549	55617	41713
	Dart fwd w/ DT	31348	26870	64328	55138	34253
	Margin of Safety	-0.03	-0.02	-0.02	-0.01	-0.18
H-H	Bell fwd w/ DT	91610	77729	180707	153327	114995
	Dart fwd w/ DT	101390	86906	198720	170331	105812
	Margin of Safety	0.11	0.12	0.10	0.11	-0.08

$$F = \frac{Mc}{I}$$

Section near supports is 4x stronger inertia than section G-G, however is under 10x as much moment. Therefore it will fail before section G-G. ∴ Section G-G is acceptable.

10.09.28



Item	Qty -141	Qty -141B	Part Number	Description
1	X		D212-664-141	CROSSTUBE ASSEMBLY (205/212/412 HIGH FWD)
2		X	D212-664-141B	CROSSTUBE ASSEMBLY (214 HIGH FWD)
3	1	1	D6005-128	CROSSTUBE
4	2	2	D2893-1	SUPPORT
5	4	4	D3595-063-450	RUBBER CUSHION
6	4	4	MS21920-25	CLAMP (OR MS21920-26)
7	A/R	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

#### GENERAL NOTES:

- 1) MATERIAL: MANUFACTURED FROM D6005-128  
FINISHED LENGTH = 126.514±0.020
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1  
PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2  
PAINT OUTSIDE PER DART QSI 005 4.2
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
- 6) IDENTIFICATION: SCRIBE DART PART NUMBER "D212-664-XXX" AND BATCH NUMBER ON INSIDE OF CUFF  
USING VIBRATING STYLUS
- 7) WEIGHT: D212-664-141 = 33.6 lbs (PER IIN-D212-664)  
D212-664-141B = 33.6 lbs (PER IIN-D212-664)
- 8) PART IS SYMMETRIC ABOUT CENTERLINE.
- 9) RUN CUTTER OFF PART. BLEND OUT EDGE LONGITUDINALLY. TRANSITION SHOULD BE SMOOTH.
- 10) BEND PROGRESSIVELY WITH A MINIMUM OF 3 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS  
6% BASED ON O.D.
- 11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
- 12) INSTALL D2893-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 TO THE SURFACE OF  
D2893-1 THAT WILL BE IN CONTACT WITH THE CROSSTUBE PER QSI 015. LET CURE FOR 12 HOURS AFTER  
INSTALLATION AND PRIOR TO PACKAGING.
- 13) INSTALL MS21920-25 CLAMPS (OR -26) WITH D3595-063-450 RUBBER CUSHIONS TO SECURE THE D2893-1  
SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMPS ARE OPPOSITE OF CROSSTUBE  
SUPPORT.
- 14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE  
SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR  
DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND  
MARKS ARE UNACCEPTABLE.
- 15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT  
HAS NOT BOTTOMED-OUT AFTER TORQUING.

STAMP  
RE  
EN  
UNCCNTN  
SUBJECT TO  
WITH  
WORK  
NO. 62167  
P/S 10-980

RELEASED  
2009-10-29  
M

D	REFORMAT/REVISE GENERAL NOTES/PART LIST; REORGANIZED VIEWS AND REFORMATTED DRAWING TO CURRENT STANDARDS; ADD -141B (ZIN B4-2, D4-2); REMOVED REF & ADD TOLERANCES (ZIN B4-3, C6-3, C8-3 & B6-3); RELOCATED FLAG #6 PER PAR 08-046 (ZIN A5-3); MOVED TURNING DETAIL & UPDATED TOLERANCE TO SHEET 4	RF	09.09.30
C	REMOVE -851 ABRASION STRIP; ADD MAGNOBOND 6398, CUSHION, REVERSE CLAMPS	PH	07.03.08
B	ADD HOLES FOR COMPATABILITY WITH BHT/AA SKIDTUBES	PH	05.02.04
A	NEW ISSUE	PH	00.12.12
REV.	DESCRIPTION	BY	DATE
DESIGN	PH	DART AEROSPACE LTD	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. D
MFG. APPR.	PH	D212-664-141	SHEET 1 OF 4
APPROVED	PH	TITLE	SCALE
DE APPR.	PH	XTUBE ASS'Y (205/212/412 HI FWD)	NTS
DATE	09.09.30	COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

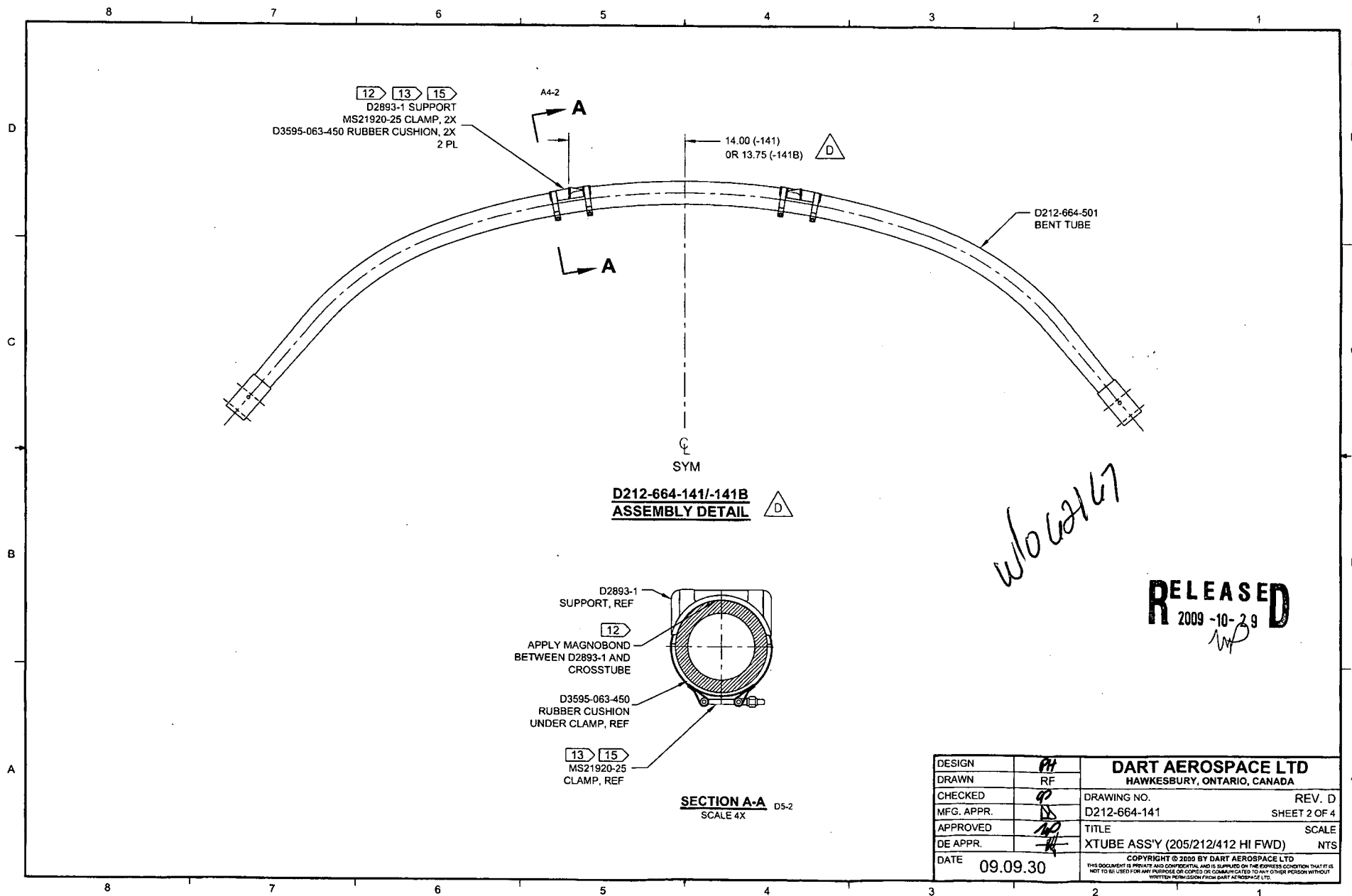
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



DESIGN	PH	<b>DART AEROSPACE LTD</b>	
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MFG. APPR.	DS	D212-664-141	SHEET 2 OF 4
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DATE	09.09.30	<small>COPYRIGHT © 2005 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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**NOTE:** Date & initial all entries





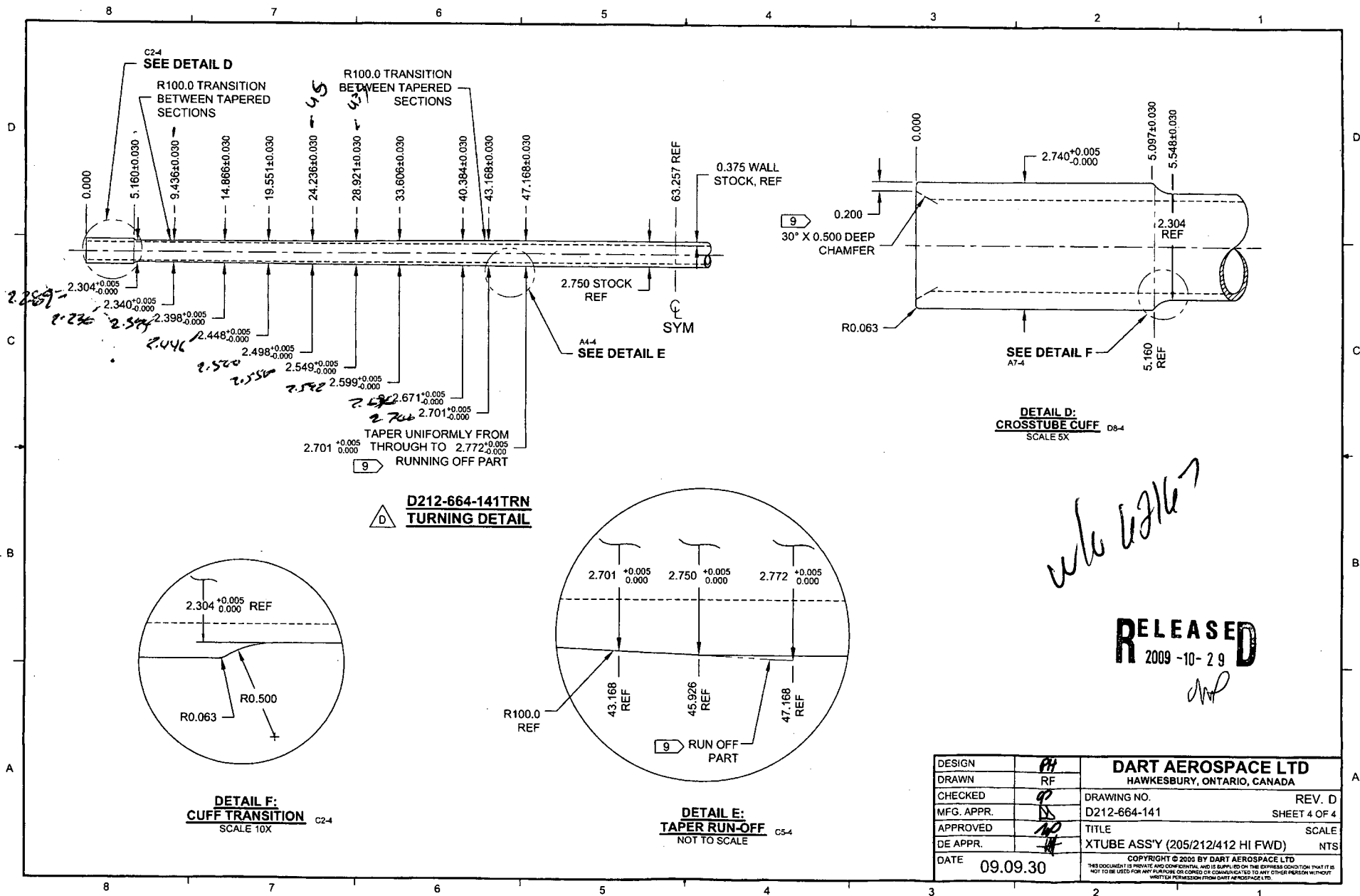
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries